

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

ARISE FOR SOCIAL JUSTICE;
¿OISTE?; NEW ENGLAND STATE-AREA
CONFERENCE OF THE NAACP;
REV. TALBERT W. SWAN, II;
NORMAN W. OLIVER; DARLENE
ANDERSON; GUMERSINDO GOMEZ;
FRANK BUNTIN; RAFAEL RODRIQUEZ;
and DIANA NURSE

Plaintiffs,

v.

CITY OF SPRINGFIELD and SPRINGFIELD
ELECTION COMMISSION,

Defendants.

Civil Action No. 05-30080 MFP

EXPERT REPORT OF JOHN E. HARMON

I, John E. Harmon, hereby declare and say as follows:

INTRODUCTION

I have been retained as an expert by counsel for Plaintiffs in the above-captioned litigation to render an expert opinion regarding the nine districts Plaintiffs have proposed as a replacement for Springfield's existing at-large election system for the City Council. Specifically, I was retained to analyze the Census data and methodology upon which Plaintiffs' proposed plan is based and to render an opinion as to whether minority groups in the proposed districts are sufficiently large and geographically compact to form a majority so as to provide the Plaintiffs with a greater opportunity to elect representatives of their choice.

Professional Qualifications

1. I am a full professor of geography at Central Connecticut State University. I hold a masters' degree in geography from the University of Cincinnati and a Ph.D. in geography from Boston University. I have nineteen years' experience in Geographic Information Systems (GIS) as applied to municipal planning and census information. GIS, broadly speaking, is mapping software that allows you to do spatial analysis of many kinds of databases, including census databases. GIS is used in many application areas of business and government and is commonly used to define voting and other administrative districts. I teach introductory and advanced courses in GIS and supervise graduate thesis and special project work in GIS and place interns in state and local government agencies that use GIS. My *curriculum vitae* is attached as Appendix 1. My publications have been largely in the area of cultural geography but I have used GIS and computer mapping heavily in my research. This includes extensive use of census data in computer mapping. I have a book published on the design and implementation of GIS.
2. I have acted as a consultant on **redistricting** to the National Association for the Advancement of Colored People (Connecticut Chapter) and the Ocean State Action Coalition (Rhode Island). For the NAACP I prepared statewide house and senate redistricting plans that were presented to the Connecticut redistricting commission during the redistricting process following the 2000 Census. For the Ocean State Action Coalition in Rhode Island I did an analysis of 2000 Census data and trained their staff and volunteers in how to use mapping software to prepare a Congressional redistricting plan. I have also advised the Connecticut Citizen Action Group with respect to redistricting issues and have carried out other GIS projects for CCAG.

Opinions.

3. I have reviewed the Plaintiffs' Plan containing nine City Council districts and have reached the following opinions:

- a) These districts are supported by data from the Federal Census of Population and Housing (2000), and comprise a set of nine districts that are compact and meet the Constitutional requirements of one-person, **one-vote** as they are within the $\pm 5\%$ deviation from ideal population.
- b) Upon visual inspection, there are no problems of shape with the districts proposed.
- c) Blacks and **Latino/Hispanics** constitute the majority voting age population in four districts. The Plaintiffs' Plan has one majority Black City Council district (District 3), two majority Latino/Hispanic districts (Districts 1 and 2) and one additional majority **Black/Latino/Hispanic** district (4). These districts form a contiguous cluster in central Springfield.
- d) Adoption of the Plaintiffs' Plan would result in an increase in the likelihood of the election of Black and Hispanic/Latino candidates to Springfield's City Council.

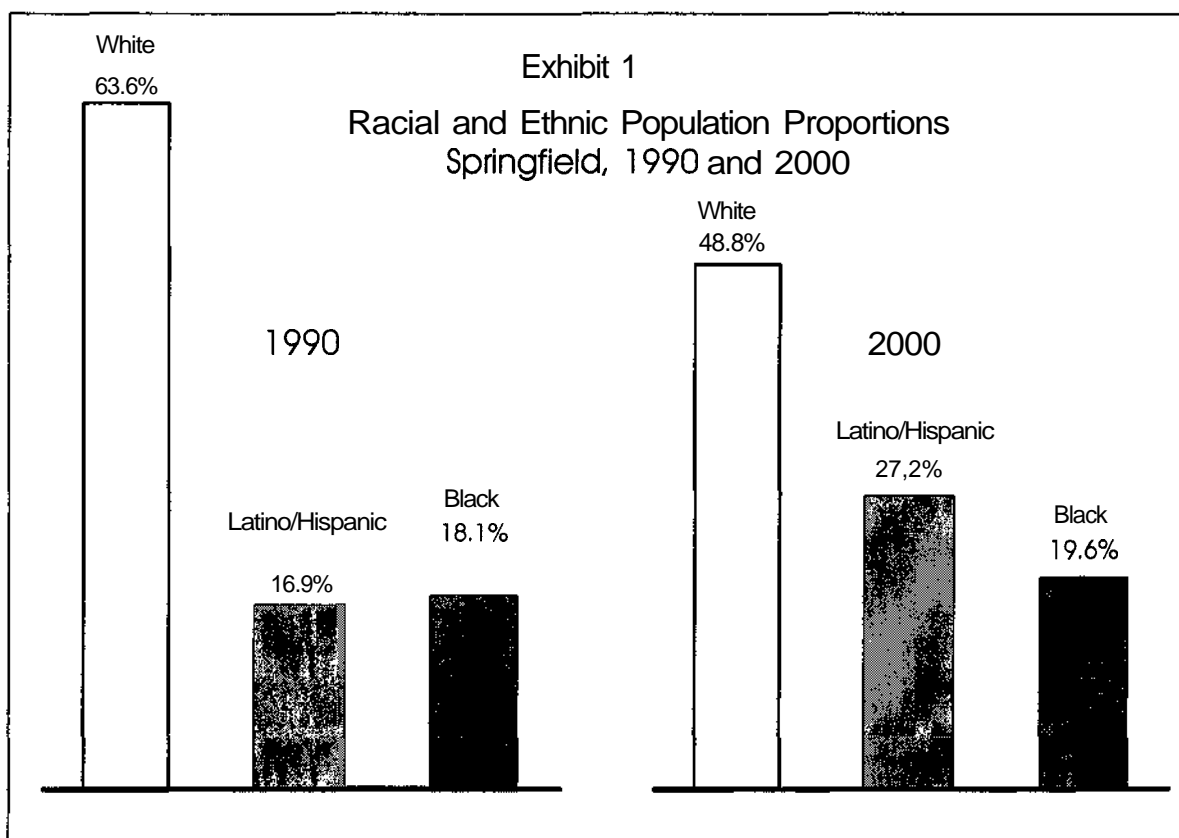
Basis and Reasons for Opinion

SPRINGFIELD - DEMOGRAPHIC CHANGE 1990-2000

- 4. The City of Springfield lost population in the decade from 156,983 to 152,082, 3.12 % of the population. Most of the decline was in the white population, which went from 99,869 to 74,291, a decline of 25.61%. In 1990 whites made up 63.62% of the city's population; by 2000 this proportion had dropped to less than half, 48.85%.
- 5. At the same time the **Latino/Hispanic** population grew very rapidly, from 26,528 to 41,343, growth of 55.85%. This growth rate was more rapid than the **Latino/Hispanic**

growth in the state (49.1%) and has made Springfield the third largest Latino/Hispanic population center in the state, after Boston and Lawrence.

6. The Black population of the city grew much more slowly, from 28,484 in 1990 to 29,831 in 2000 (4.73%). The proportion of the Black population also grew slightly from 18.1% in 1990 to 19.6% in 2000 (Jones 2003). These demographic changes are shown in Exhibit 1.



Source: Jones 2003

7. With respect to national origin, a very large majority (85.26%) of Springfield's Latino/Hispanic population is from Puerto Rico and therefore U.S. citizens. The next largest proportion, and largest growing group over the decade is "Other." This category

includes people whose country or continent response cannot be identified, was left blank or used an inclusive term such as "Latino." (Exhibit 2)

Exhibit 2					
	1990 (a)		2000		Percent Growth
	Population	Percent	Population	Percent	
Latino or Hispanic	25,642		41,343		61.20%
Puerto Rican	23,396	91.20%	35,251	85.30%	50.70%
"Other" (b)	887	3.50%	3,347	8.10%	277.30%
Mexican	249	1.00%	630	1.50%	153.00%
Dominican Republic	383	1.50%	614	1.50%	60.30%
Spanish (c)	(c)	(c)	372	0.90%	(c)

- a) In 1990, specific nationalities are based on sample data, so population figures will not match the 100% data.
- b) More detail is available in 2000, therefore the "Other" category may not be equivalent across time.
- c) Spanish was part of "Other" in 1990; no growth figures are available.

Source: Jones 2002

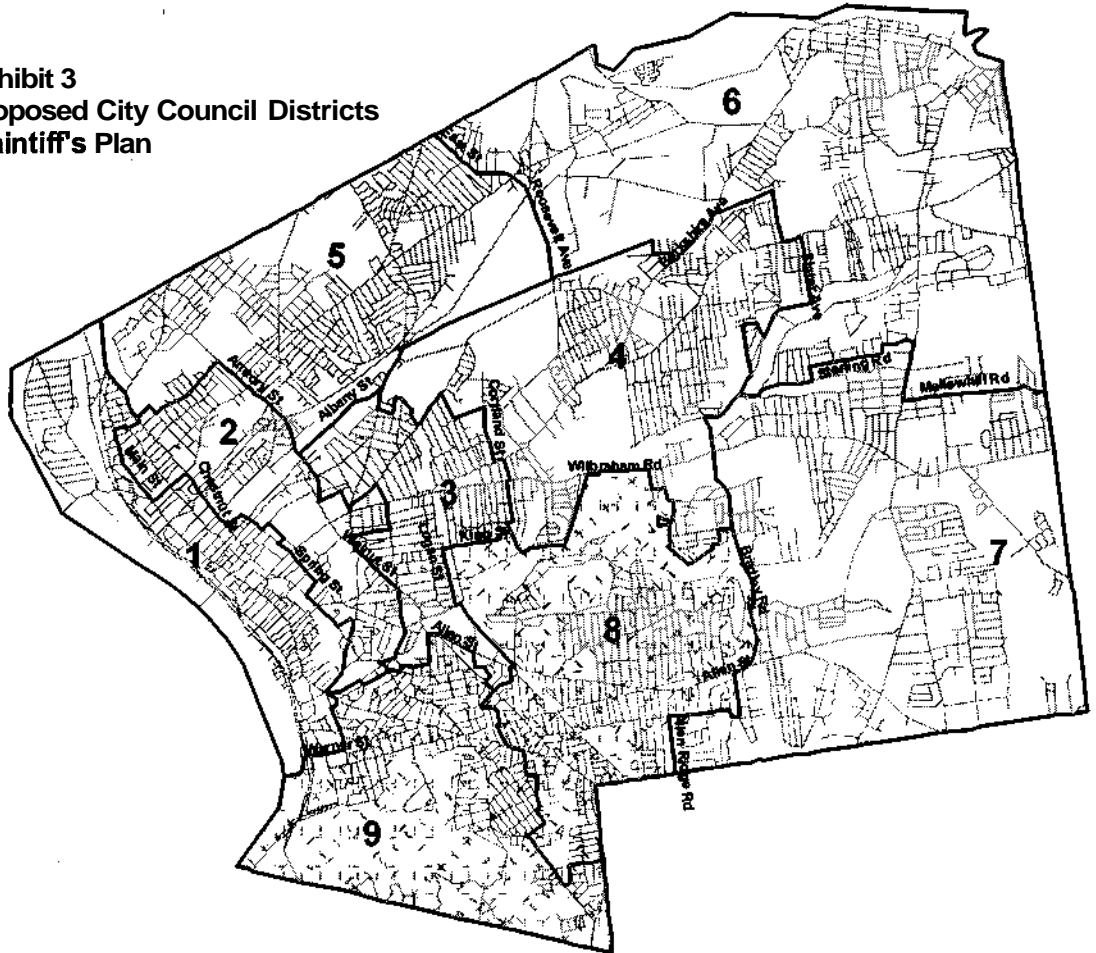
8. The rapid growth over the last decade of the Latino/Hispanic population of Springfield has changed the demographic makeup of the city in important ways. More than one in four city residents is Latino/Hispanic and because of the relatively young age of this group, even with no continued migration, it can be expected to grow in the future both absolutely and as a proportion of population.

PROPOSED CITY COUNCIL DISTRICTS

9. Acceptable City Council districts can be drawn using the 2000 census data. The districts in the Plaintiffs' Plan are compact and meet the Constitutional requirement of one-

person, one-vote as they are within the $\pm 5\%$ deviation from ideal population. The Plaintiffs' Plan is shown in Exhibit 3.

**Exhibit 3
Proposed City Council Districts
Plaintiff's Plan**



10. The nine districts of the Plaintiffs' Plan have deviations from ideal population within $\pm 5\%$. Deviation from ideal is calculated by calculating the ideal population (Total City population/number of proposed districts, $152,082/9 = 16,898$) and subtracting the ideal population from the proposed population of the district. Proposed District 7 is closest to ideal (78) and District 4 the furthest (765). These districts are acceptable because they all

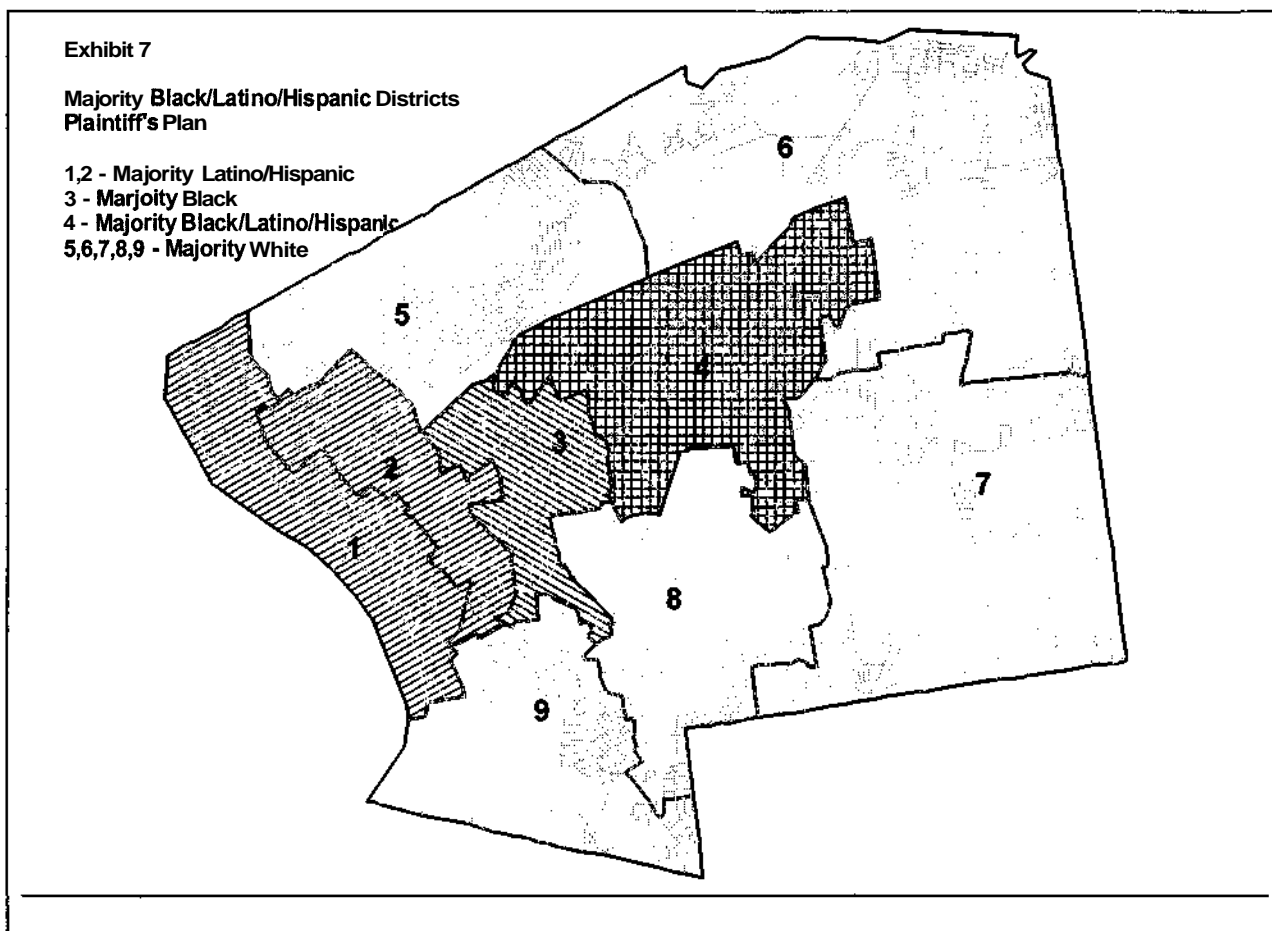
are within $\pm 5\%$ of ideal population. This target of $\pm 5\%$ has become the accepted level of variation for state assembly districts after a long string of Supreme Court cases. In municipal districts more variation is usually allowed. The districts proposed in the Plaintiffs' Plan fall within the stricter standard for state assembly districts. (Exhibit 4).

Exhibit 4									
DISTRICT	Total	Absolute Deviation from Ideal	Percentage Deviation from Ideal	White	Black	Asian	Native Amer/Pac. Island	Latino/Hispanic	Other
1	16,537	-361	-2.14%	3,669	2,088	180	41	10,249	310
2	16,560	-338	-2.00%	3,036	2,990	128	39	10,038	329
3	16,184	-714	-4.23%	2,060	9,139	199	61	4,218	507
4	16,133	-765	-4.53%	5,784	6,335	234	41	3,287	452
5	17,250	352	2.08%	11,155	1,399	194	40	4,127	335
6	17,550	652	3.86%	11,595	2,483	185	55	2,821	411
7	16,976	78	0.46%	13,401	1,831	252	29	1,191	272
8	17,352	454	2.69%	13,930	1,322	465	24	1,295	316
9	17,540	642	3.80%	9,661	2,244	1,020	48	4,117	450
Total	152,082			74,291	29,831	2,857	378	41,343	3,382
Ideal District	16,898								

11. In terms of voting age population (VAP) city-wide, Latino/Hispanics made up 21.78% and Blacks, 18.09% in 2000. Combined, the two groups accounted for 39.87% of the voting age population of the city. In the Plaintiffs' Plan, four of the proposed districts are either majority Latino/Hispanic, majority Black or majority Black/Latino/Hispanic. Proposed Districts 1 and 2 are majority Latino/Hispanic, District 3 is majority Black and District 4 is majority Black/Latino/Hispanic. The absolute VAP figures are shown in Exhibit 5 and the percentage VAP figures in Exhibit 6. The majority districts mentioned above are shown in bold in Exhibit 6 and in mapped form in Exhibit 7.

Exhibit 5							
DISTRICT	Total VAP	White VAP	Black VAP	Asian VAP	Native Amer/Pac. Island VAP	Latino/Hispanic VAP	Other VAP
1	11,394	3,328	1,532	137	26	6,155	216
2	10,722	2,659	1,941	95	26	5,805	196
3	10,441	1,674	6,058	144	46	2,210	309
4	10,985	4,516	4,226	161	32	1,804	246
5	12,763	9,092	872	143	30	2,439	187
6	12,746	9,364	1,541	138	37	1,458	208
7	13,006	10,807	1,186	182	21	667	143
8	13,576	11,403	882	342	19	763	167
9	12,422	7,894	1,314	697	38	2,229	250
Total	108,055	60,737	19,552	2,039	275	23,530	1,922

Exhibit 6				
DISTRICT	Percent White VAP	Percent Black VAP	Percent Latino/Hispanic VAP	Percent Black + Latino/Hispanic VAP
1	29.21%	13.45%	54.02%	67.47%
2	24.80%	18.10%	54.14%	72.24%
3	16.03%	58.02%	21.17%	79.19%
4	41.11%	38.47%	16.42%	54.89%
5	71.24%	6.83%	19.11%	25.94%
6	73.47%	12.09%	11.44%	23.53%
7	83.09%	9.12%	5.13%	14.25%
8	83.99%	6.50%	5.62%	12.12%
9	63.55%	10.58%	17.94%	28.52%
VAP %	56.21%	18.09%	21.78%	39.87%



12. References

- Jones, Charles. 2002. "Census Shows Growing, Changing, Latino Population." Boston, MA: The Mauricio Gaston Institute for Latino Community Development and Public Policy. [<http://www.gaston.umb.edu/publications/gr/8xxnl/articles/Census.html>]
- _____. 2003. "Latinos in Springfield." Boston, MA: The Mauricio Gaston Institute for Latino Community Development and Public Policy. [<http://www.gaston.umb.edu/resactiv/census/springfield.pdf>]

Methodology Used, and Data and Other Information Considered, In Forming Opinions.

13. This analysis uses population data reported from the Federal Census of Population and Housing (2000). Data were taken from the PL 94-171 data release available on the World Wide Web at http://www2.census.gov/census_2000/datasets/redistricting_file_pi_94-171/. Data for Census block total and VAP populations came from tables P4 (Hispanic or Latino and Not Hispanic or Latino by Race [73] Universe: Total Population) and P6 (Hispanic or Latino and Not Hispanic or Latino by Race for the Population 18 Years and Over [73] Universe: Total Population 18 Years and Over) . The construction of the Plaintiffs' Plan was done by MassVote using a GIS with additional **redistricting** tools (ArcView 3.3). I am familiar with the process and software used by MassVote and in my opinion they used the program correctly.
14. The districts were assembled using Census blocks, the finest level of geographic detail available. This data was obtained by MassVote which provided them to me. I have checked the data for completeness and accuracy and I believe it to be complete and accurate.
15. The proposed City Council districts were assembled using GIS by combining Census blocks and calculating the total and voting age populations of the assembled districts. Absolute and percentage deviations were calculated using an ideal population (total city population divided by the number of districts, $152,082/9 = 16,898$).
16. Because the 2000 Census of Population and Housing allowed for the first time a respondent to choose multiple responses to questions of race, there is a question of how to define Black population. In this report we cite Black population as single race, non-Hispanic Blacks. This is a conservative estimate of Black population; the US Department

of Justice, for example, describes Black population as including non-Hispanic respondents who report more than one race, one of which is Black. In this report, Latino/Hispanic population includes all respondents who indicated they were Hispanic or Latino. Using these two definitions of Black and Latino/Hispanic, there is no double-counting between the two groups so combinations of totals are not inflated.

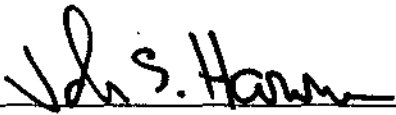
Compensation

17. I am being compensated at the rate of \$60/hour for my work on this case.

Other Expert Testimony Given in the Last Four Years

18. I prepared reports, was deposed and testified in two cases (United States District Court - District of Massachusetts *Magaly Camacho et al. v. William Francis Galvin and Black Political Task Force, et al. v. Galvin, et al.*) and submitted expert testimony in a third (District of Rhode Island – *Metts v. Murphy, C.A. No. 02-204T*)

Signed under the pains of perjury this 8th day of June, 2005.



John E. Harmon

Appendix 1
Curriculum Vitae
John E. Harmon
Department of Geography
Central Connecticut State University

Personal History

Birthdate: May 15, 1947
Birthplace: Columbus, Ohio USA
Citizenship: US
Work Address: Department of Geography, Central Connecticut
State
University, New Britain, CT, 06050
Marital Status: Married, two children
Address: 16 White Ave., West Hartford, CT 06119
Telephone: (H) 860.232.9936 (W) 860.832.2789
E-mail: harmonj@ccsu.edu

Education

B.A.	University of Michigan, 1969	Russian Area
Studies		
M.A.	University of Cincinnati, 1974	Geography
Ph.D.	Boston University, 1979	Geography

Work Experience

Fall 1992 - Spring 1978	Various teaching
assistantships and	
	instructorships during
	graduate
	school.
Fall 1997 - Spring 1979	Visiting Assistant
Professor, Miami	
	University, Oxford, OH
Fall 1979 - Spring 1986	Assistant Professor,
Department of	
	Geography CCSU, New
	Britain, CT
Fall 1986 - Spring 1992	Associate Professor
Fall 1992 - present	Professor

GIS Teaching

Geog 378 - Introduction to Geographic Information Systems
Geog 478 - GIS Design and Implementation

Recent GIS Project Experiences - Outreach and Consulting

Housing Quality Survey and Mapping: Neighborhood Housing Service,
New Britain CT. Fall 2000 and ongoing.

Parcel Map Development - Towns of Morris, Bridgewater, New Hartford, Warren, Valley RPA, and others.

Mapping and GIS Database Support - New York Service Employees International State Council.

Mapping and GIS Database Development - Maine People's Alliance

GIS Database Support for Planimetries (private planning consultants) - Danbury, Bethel, Groton, and other communities

Address Matching and Districting. Maine People's Alliance, Connecticut Citizen Action Group.

Arcview Training - Ct. DEP, Town of South Windsor, Town of West Hartford, Legislative Electoral Action Project, City of Torrington, State Department of Public Safety

NAACP-Connecticut: Redistricting

Ocean State Action Coalition - Providence, RI - Redistricting and expert testimony.

Connecticut Citizen Action Group - Redistricting and Membership Analysis

Commonwealth Coalition/Boston Vote - Boston, MA. GIS development and redistricting testimony.

GIS and Mapping Support - Plan of Conservation and Development. Office of Policy and Management, State of Connecticut.

Parcel layer updating - Town of Plymouth, CT

Connecticut Forest and Park Ass. - Trail Mapping

Publications

1974. "There Are No Arby's in Appalachia," *Clifton*. 1 (2): 1-15. With Richard Symanski and Michael Swift.

1976. *County Growth Atlas: The Spatial Dynamics of Postwar County Economic Growth*. First National Bank of Boston and New England Regional Research Program.

1983. "The Regional Structure of Megalopolis and the Situation of Southern New England Cities." *Proceedings of the New England-St. Lawrence Valley Geographical Society*. 13: 80-89.

1984. "New England as a Vernacular Culture Region." *Proceedings of the New England-St. Lawrence Valley Geographical Society*. 14: 37-45.
1984. "Ghetto Boundaries in Connecticut Cities." *Transition*. 14 (3): 16-24.
1986. *Connecticut: A Geography*. Boulder, CO: Westview Press. With Tom Lewis
1986. "Bowling Regions of North America." *Journal of Cultural Geography*. Summer: 109-124.
1988. *Geography in New England*. New Britain: New England St. Lawrence Valley Geographical Society. Editor, with Timothy J. Rickard.
1991. "The Street Name Cover of New England." *Proceedings of the New England-St. Lawrence Valley Geographical Society*. 21: 1-12.
1997. "Uppie, Downie - Commercial Shad Fishing on the Hudson." *Shad Journal* 2 (5): 4-8.
- 1998 "Architecture and Landfill in the Back Bay." Field trip for the Association of American Geographers meeting, Boston.
1998. "Boston's North End: a Multi-Layered Landscape." Field trip for the Association of American Geographers meeting, Boston.
- 1997, 1998. *Atlas of Popular Culture in the Northeastern United States*
[<http://www.geography.ccsu.edu/harmonj/atlas.htm>].
1999. "The Place Name Cover of New England." In *Boston and New England: Advancing the Revolution in Geographic Education in a Region of Change. A Pathways in Geography Resource Publication 21*. Editors Theodore S. Pikora and Steven S. Young. 21-30.
1999. "Locating, Mapping and Explaining Vernacular Region Names." In Pikora and Young. 89-98.
- 2003 *GIS Design and Implementation*. With Steven A. Anderson, John Wiley & Sons: New York.

Conference Presentations

1976. "A Time Series Analysis of Manufacturing Employment Decline in New England Cities." New England-St. Lawrence Valley Geographical Society.
1977. "An Accounting Model for Economic Transmission in an Urban System." Association of American Geographers.
1978. "Distribution of Short-Run Economic Change in a City System." Association of American Geographers
1979. "A Sequence Analysis of Store Associations in Covered Malls." Association of American Geographers
1983. "Suburban Areal Institutions and Urban Form." Association of American Geographers
1987. "The Information Reach of Megalopolitan Centers." New England-St. Lawrence Valley Geographical Society.

1990. "The Regional Structure of Newspaper Influence Fields in the United States Urban System. Association of American Geographers
1991. "The Spatial Structure of Newspaper Circulation Fields." Association of American Geographers
1992. "The Natural Environment in New England's Street Name Cover." Association of American Geographers.
1993. "A Rapid Development Methodology for Preparation of GIS Parcel Layers." Towson State University GIS Conference.
1996. "Vegetation in the Place Name Cover of the United States." Association of American Geographers..
1997. "Origins and Diffusion of Lacrosse in North America." New England-St. Lawrence Valley Geographical Society.
2001. "The Mixed Diffusion of Danball." Northeast Popular Culture//American Culture Association.
2005. "Reducing Complexity in Map Layers - the Connecticut Plan of Conservation and Development 1998 and 2003." Towson GIS 2005.

PROFESSIONAL ACTIVITY

New England-St. Lawrence Valley Geographical Society - 1979 to 1998. State representative, Secretary-Treasurer, Vice-President, Editor Proceedings (several years), President (1996-1998), Conference Organizer - Hartford (1994).

Connecticut Arc-Users Group - Statewide association of users of a GIS software. Organized conferences for 200-400 people, 1997.

Local Arrangements Committee - AAG. Boston meeting, 1997

Member User2User Network (CT - GIS)